REMARKS

By this Amendment, claims 10, 14 and 16 are amended to remove noted informalities and claim 6 is amended to correct an obvious typographical error. Claims 1-20 are pending.

The Office Action rejected claims 1-16 and 19-20 as being anticipated by Kudoh et al. (U.S. 5,414,702; hereafter "Kudoh") and rejected claims 17-18 as being unpatentable over Kudoh in view of Duault et al (U.S. 5,930,265; hereafter "Duault"). Applicant respectfully traverses these rejections because the cited prior art fails to disclose, teach or suggest the claimed invention.

For example, Kudoh, analyzed individually or in combination with Duault, fails to disclose, teach or suggest the claimed data segmentation methods including "segmenting larger data units of a higher layer into smaller protocol data units of a lower layer so that each lower layer protocol data unit includes one or more data segments each containing data from a different one of the upper layer data units; providing the lower layer protocol data units containing two or more data segments, with segmentation length information which otherwise indicates length of the data segments; indicating with predetermined values of the segmentation length information, special information about the higher level protocol data units instead of the length of the segments. . . transmitting the lower level protocol data units to a receiving end; [and] assembling the segmented higher level data unit at the receiving end by means of the segmentation length information. . .," as recited in claims 1-9 or the subject matter similarly recited in independent claim 15.

Similarly, Kudoh, analyzed individually or in combination with Duault, fails to disclose, teach or suggest the claimed telecommunications system, comprising "means for segmenting the upper layer data units for insertion into smaller protocol data units of a lower layer so that each lower layer protocol data unit includes one or more data segments, each containing data from a different one of the upper layer data units; . . . means for providing a predetermined value in the segmentation length information to a receiver, the predetermined value including special information about the higher level data units instead of the length of the data segments at least in the lower layer protocol data units containing two or more data segments; [and] . . .means for assembling the segmented higher level data units from received lower layer protocol data units at the receiver by means of the segmentation length information in the protocol data units. . .," as recited in claims 11-14 or the subject matter similarly recited in independent claim 16.

Further, Kudoh, analyzed individually or in combination with Duault, fails to disclose, teach or suggest the claimed mobile station "configured to segment said first data units into data segments that can be accommodated by the second data units for insertion into the second data units, each second data unit including one or more data segments; . . . the mobile station being configured to set a predetermined value for the segmentation length information in order to provide a receiver with special information about the first data units, values of said segmentation length information other than said predetermined values indicating the length of the data segments; [and] the mobile station being configured to assemble the segmented first data unit from received second data units at the receiver by means of the segmentation length information included in said second data units. . .," as recited in claims 17-18.

Similarly, Kudoh, analyzed individually or in combination with Duault, fails to disclose, teach or suggest the claimed network element "configured to segment said first data units into data segments that can be accommodated by the second data units for insertion into the second data units, each second data unit including one or more data segments; . . .the network element being configured to set a predetermined value for the segmentation length information in order to provide a receiver with special information about the first data units at least in the lower layer protocol data units containing two or more data segments, values of said segmentation length information other than said predetermined values indicating the length of the data segments; [and] the network element being configured to assemble the segmented first data unit from received second data units at the receiver by means of the segmentation length information including in said second data units. . .," as recited in claims 19 and 20.

KUDOH

Applicant submits that proper interpretation of Kudoh's Fig. 3 indicates that the higher layer protocol unit is the frame shown at top of Fig. 3. The payload information from the frame is segmented into lower layer PDUs by a two-step procedure, wherein, (1) the frame is encapsulated into a convergence (CS) sublayer PDU, which includes the header CSH and the trailer CSH indicating the start and stop of the higher layer frame, and (2) the CS-PDU is further subdivided into segmentation and reassembly (SAR) sublayer PDUs, which are provided with a header SARH and a trailer SART.

Each CS-PDU contains information from only one frame and each SAR-PDU contains information from only one CS-PDU or from only one higher layer frame. Subsequently, each SAR-PDU is inserted to one ATM cell.

Therefore, Kudoh fails to teach or suggest a lower layer PDU which contains two or more data segments of the higher layer data units, i.e., frames.

Accordingly, Kudoh fails to disclose, teach or suggest segmentation of first data units into data segments that can be accommodated by second data units for insertion into the second data units, each second data unit including one or more data segments.

Further, although the Office Action referred to the length information LI in the SART as corresponding to the segmentation length information referred to in the rejected claims, that length information LI indicates the length of the SAR-PDU without padding, the purpose being to indicate the effective length of the ATM cell in the ATM layer.

Because of the true nature of the LI and because Kudoh fails to teach or suggest a lower layer PDU which contains two or more data segments of the higher layer data units, Kudoh fails to disclose, teach or suggest insertion of any segmentation length information in a second data unit when the second data unit contains data from two or more of the first data units.

Kudoh further fails to teach or suggest any indication of special information about higher level protocol data units using predetermined values of the segmentation length information. Further, Kudoh fails to teach or suggest assembly of the segmented higher lever data unit at the receiving end by means of the segmentation length information. Rather, in Kudoh, the header CSH and the trailer CST of the CS-PDU indicate the beginning and the end of the higher layer frame. Each CS-PDU contains one higher layer frame. Each SAR-PDU contains segments from only one CS-PDU. Thus, the LI merely indicates the effective length of the ATM cell rather then any information about the higher layer frames.

DUAULT

Duault merely discloses data processing systems and methods for communicating mobile voice data with an ATM network.

COMBINED TEACHINGS OF KUDOH AND DUAULT

Moreover, assuming for arguments sake that one of ordinary skill in the art would have been motivated to combine the teachings of Kudoh and Duault, the result would have

merely resulted in indicating the beginning and end of a higher layer frame with the header and trailer of the CS-PDU.

Thus, the combined teachings of Kudoh and Duault fail to disclose, teach or suggest the claimed invention including the recited means and method operations for (1) segmenting first data units into data segments that can be accommodated by the second data units for insertion into the second data units, each second data unit including one or more data segments, (2) setting a predetermined value for the segmentation length information in order to provide a receiver with special information about the first data units at least in the lower layer protocol data units containing two or more data segments, values of said segmentation length information other than said predetermined values indicating the length of the data segments, and (3) assembling the segmented first data unit from received second data units at the receiver by means of the segmentation length information including in the second data units. Accordingly, claims 1-20 are patentable over the teachings of Kudoh, analyzed individually or in combination with Duault, and claims 1-20 are allowable.

All rejections and objections having been addressed, it is respectfully submitted that the present application is now in condition for allowance, and a notice to that effect is earnestly solicited. Should there be any questions or concerns regarding this application, the Examiner is invited to contact the undersigned at the below-listed telephone number.

Please charge any fees associated with the submission of this paper to Deposit Account Number 033975. The Commissioner for Patents is also authorized to credit any over payments to the above-referenced Deposit Account.

Respectfully submitted,

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